ORGANIC VAPOR CARTRIDGE KGC-1L(C)

For Industrial Use ONLY

This product is designed for industrial use only. Make sure that this product is used by persons who:

- Have sufficient knowledge on occupational health and safety and respiratory protective equipment; or,
- Work under the supervision of personnel with sufficient knowledge.

- Shelf life is 2 years from the date of manufacture when the chemical cartridge is stored unopened.

Please observe the following precautions:

- Store this chemical cartridge unopened in dark, cool place. Avoid direct sunlight, toxic gas and high humidity.
- NEVER use this chemical cartridge if it is torn, hole or opened.
- NEVER use this chemical cartridge if its shelf life is expired even in un-opened condition.
- NEVER disassemble this chemical cartridge.
- Make sure that there are no distortions and/or no damage such as scars on this chemical cartridge.

Read user instruction of chemical cartridge respirator prior to use.

There is no quality deterioration even if the air in the package is exposed due to the change in temperature. Read user instruction of the respirator carefully and install the chemical cartridge on the respirator correctly.

Scope of applications

Working environment where organic vapor exists.

Call KOKEN for organic vapors that can be removed by the chemical cartridge, as some vapors cannot be removed.

If used with a dedicated filtering material (option), this chemical cartridge can be used in working environment where organic vapor and dusts co-exist (Class B1).

- This chemical cartridge can NOT be used with Modal R46 and Modal 1761G.
- NEVER use a pre-filter other than the dedicated particulate pre-filter. NEVER disassemble this chemical cartridge.

DANGER

- This chemical cartridge should NOT be used in working environment where:
  - Concentration level of oxygen is under 18%.
  - Toxic gas that cannot be removed with the use of organic vapor cartridge assist and/or,
  - Concentration level of toxic gas is over 0.1%, average concentration level of toxic gas is over 50 times of its exposure limit in case half-facepiece respirator is used, or average concentration level of toxic gas is over 10 times of the exposure limit in case half-facepiece respirator is used, (average concentration of toxic gas is over 100 times of its exposure limit in case half-facepiece respirator is used, and over 50 times of its exposure limit in case half-facepiece respirator is used, if working hours per day are under 30 minutes). (cf. standards set by Japan Respirator Manufacturers Association).
  - Even with the use of dedicated particulate pre-filter, this chemical cartridge can NOT be used in the following working conditions:
    - Regular work or emergency work performed in areas where there is a possibility of contamination due to spillage of harmful substances.
    - Working applications where there is a possibility of exposure to dioxins.
    - Removal work of asbestos.
    - Working applications performed in areas where metal fume (including welding fume) diffuses.
    - Working applications performed in areas where particulates, with standard control concentration level less than 0.1mg/m³, diffuse.
    - Working applications where oil mist etc. exist, or,
    - Any working applications similar to the above.

- This chemical cartridge CAN NOT be used in working environment which is substantially away from normal temperature, normal humidity or normal atmospheric pressure, as its expected performance may decrease significantly.

Fit test

(Make sure to also read user instruction of chemical cartridge respirator).

- Completely cover chemical cartridge with an appropriate fit tester (piston) and put on respirator. Close the end of the pipe by pinching it with thumb and forefinger and inhale. If facemask is slightly drawn towards face, good fit is obtained.
- If inward leakage is felt inside facemask, good air-tightness is not obtained. Check installation condition of the chemical cartridge, and adjust tightness of headband and position of the respirator. Perform fit test. If good fit is obtained, remove the fit tester.
- Make sure to perform fit test prior to each use.
- If pre-filter is used, fit test should be performed with the pre-filter installed on the chemical cartridge.

(Make sure that pre-filter retainer is in place when removing the fit tester from the chemical cartridge).

Document No. NS NS G-SE7 (E-001), Translation of Japanese instruction manual on KGC-1L (C).

Translated in December, 2014. Contents described in this user instruction may differ from the requirements/ specifications exercised outside of Japan. In such case, make sure to follow local laws and regulations.
**Specifications**

<table>
<thead>
<tr>
<th></th>
<th>KGC-1L only</th>
<th>With the use of a mighty micron pre-filter type 1, Class S1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service life</td>
<td>Over 200 min.</td>
<td>Over 200 min.</td>
</tr>
<tr>
<td>Air flow resistance</td>
<td>Less than 115Pa</td>
<td>Less than 215Pa</td>
</tr>
<tr>
<td>Filtration efficiency (NaCl particle)</td>
<td>—</td>
<td>Over 80.0%</td>
</tr>
<tr>
<td>Increased value of inhalation resistance</td>
<td>—</td>
<td>60Pa (Avg.)</td>
</tr>
<tr>
<td>Weight</td>
<td>Less than 65g</td>
<td>Less than 79.5g</td>
</tr>
</tbody>
</table>

* Test conditions: Cyclohexane: 500ppm, Temperature: 20℃, Relative humidity: 50%

**Breakthrough time curve (KGC-1J) Organic Vapor Cartridge**

Test gas: Cyclohexane, breakthrough concentration: 5ppm, Flow rate: 3LPM

<table>
<thead>
<tr>
<th>Concentration (ppm)</th>
<th>500ppm</th>
<th>50%RH</th>
</tr>
</thead>
<tbody>
<tr>
<td>20℃</td>
<td></td>
<td></td>
</tr>
<tr>
<td>50%RH</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Graph**

**Conditions of working environment**

- Concentration of cyclohexane: 500ppm, temperature: 20℃ and relative humidity: 50%

**Replacement schedule of chemical cartridge**

Replace chemical cartridge when:

1. Total time spent has reached the service life time obtained from breakthrough time curve.

**Example:**

<table>
<thead>
<tr>
<th>Service life time</th>
<th>Conditions of working environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>260 min.</td>
<td>Concentration of cyclohexane: 500ppm, temperature: 20℃ and relative humidity: 50%</td>
</tr>
</tbody>
</table>

**Replacement priority:**

- Service life time is 120 minutes when chemical cartridge is used in the working environment where concentration of cyclohexane is 500ppm, temperature is 20℃ and relative humidity is 50%.

**Usage of dedicated pre-filter (metallic pre-filter onto chemical cartridge)**

- Make sure to install dedicated pre-filter if this chemical cartridge is used in particulate-contaminated environment. Do NOT re-use the pre-filter by flipping it over when airflow resistance has increased due to clogging. Deformed or damaged pre-filters should not be used.

**Disposal:**

- Do NOT disassemble chemical cartridge for disposal. Tightly seal the chemical cartridge for disposal in a bag so that toxic substance would not diffuse and dispose it as industrial waste, following local regulation. Dispose of the spent filter in a tightly sealed bag so that particulates attached to the surface would not diffuse.

**Record of total time spent**

Replace chemical cartridge well before the total time spent reaches the estimated service life time.

<table>
<thead>
<tr>
<th>Month/Date</th>
<th>Estimated service life time</th>
<th>Name of Gas</th>
<th>Name of User</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time spent per day (min)</td>
<td>(min)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total time spent (min)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**WARNING**

- Assigned test gas specified on Japanese National Standard was used to prepare the breakthrough time curve printed on this user instruction. Estimated service life time differs depending on the type of gas. Estimated service life time for some gases may be remarkably short. For the details, call KOKEN or local distributor.
- Estimated service life time obtained with the use of breakthrough time curve is designed for reference purpose only. As service life time differs depending on various factors such as air volume breathed, humidity, temperature etc., replace the chemical cartridge with a new one well before the expiration of the service life time for your safety. Even within the estimated service life time, immediately escape to a safe place with clean air and replace the chemical cartridge with a new one if gas smell, irritation or taste is noticed.
- In case of re-using a chemical cartridge, tightly seal it in a bag and store in a dark, cool place. Prior to re-use the chemical cartridge, make sure that sufficient service life time remains and there are no damages such as deformation or scratch on the surface.
- An organic vapor cartridge used for more than half of its service life, if stored for more than 6 days, may decrease its remaining service life time significantly. Therefore, do NOT re-use it and replace it with a new one.
- Compared with the test gas, certain types of gas such as methanol and carbon monoxide reduce the service life time of a chemical cartridge significantly if it is used for such a case. Do NOT re-use it and replace it with a new one after each use.
- The sense of smell may become paralyzed over time, and therefore, do NOT judge only by smell to replace a chemical cartridge.

Keep this user instruction on hand and check the contents as necessary. Call KOKEN when you have any questions or need this user instruction.

KOKEN LTD. TEL: 81(Japan)-3-5276-1925

International Trade Division


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